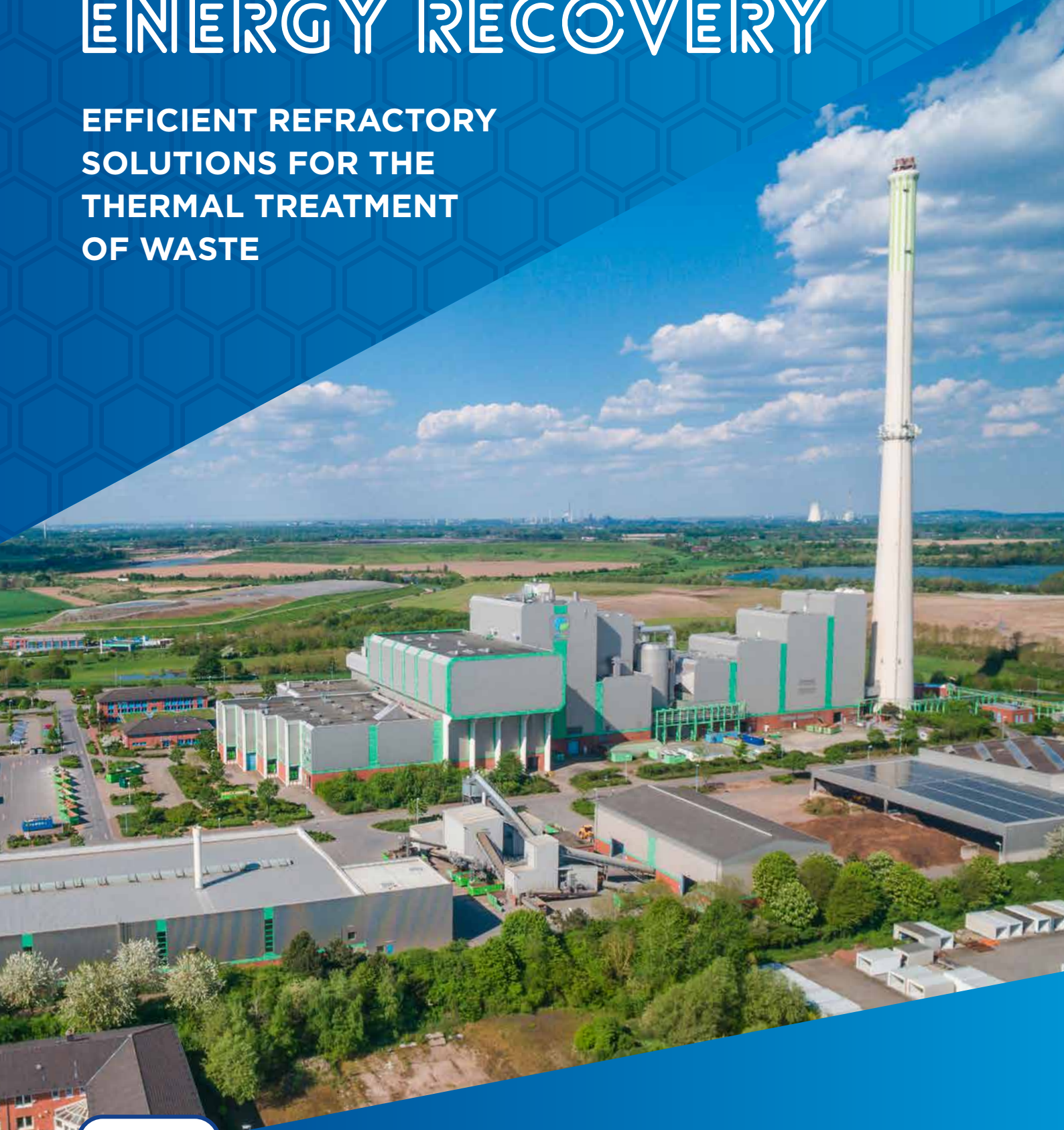


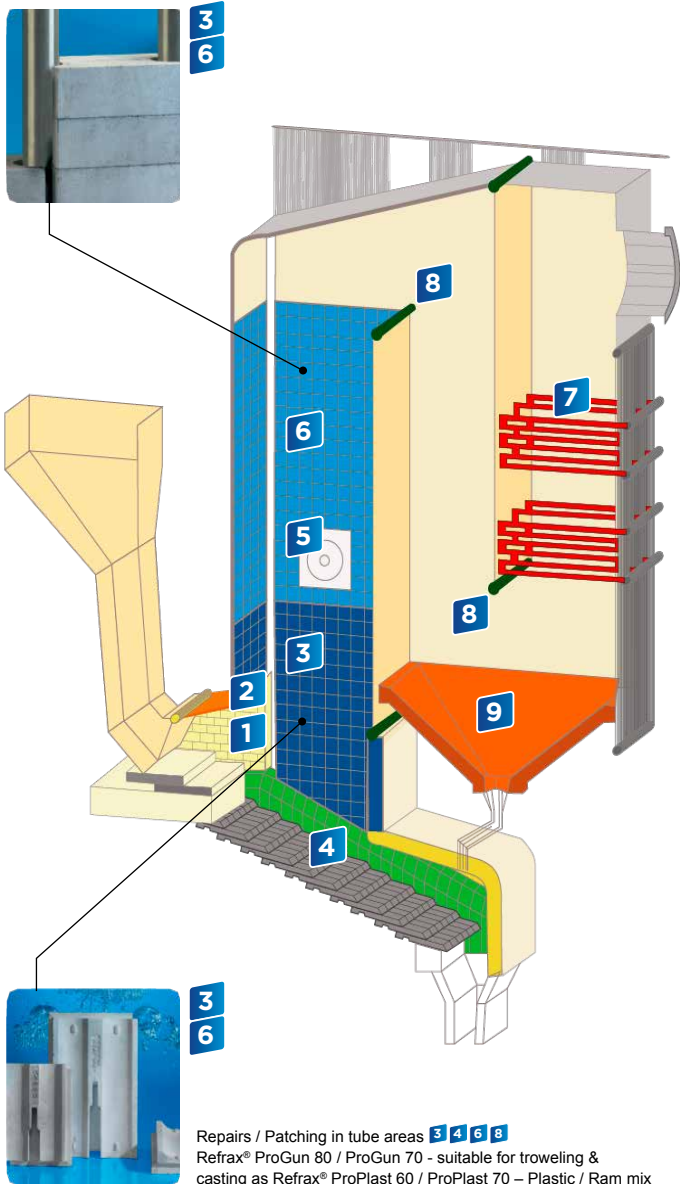
SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

ENERGY RECOVERY

EFFICIENT REFRACTORY
SOLUTIONS FOR THE
THERMAL TREATMENT
OF WASTE



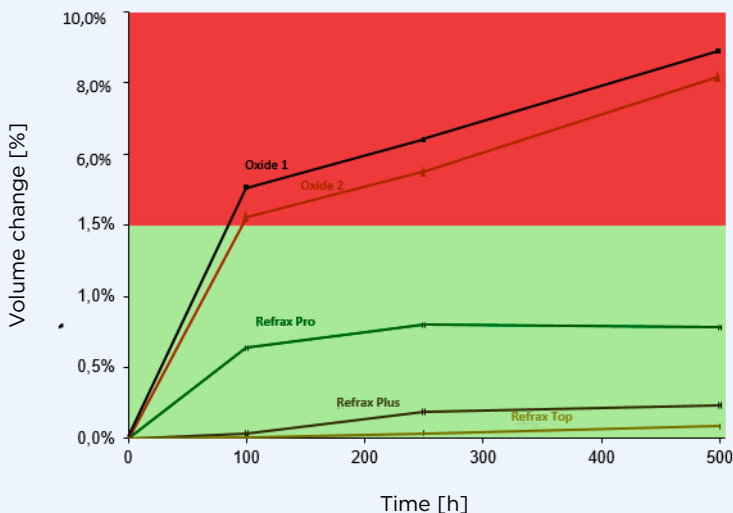
APPLICATION & PRODUCTS



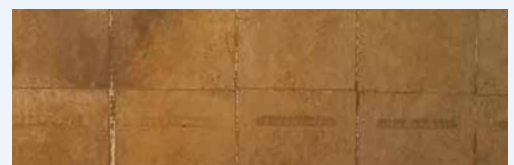
- 1 CHARGE ZONE**
Alumina brick / Refrax® PLUS brick
- 2 INLET ROOF**
Refrax® ProGun 80 / ProGun 70
Refrax® ProPlast 80 / ProGun 70
T-CLIP® PRO tile system
- 3 COMBUSTION AREA**
T-CLIP® PRO tile system in Refrax® PLUS or Refrax® TOP
- 4 GRATE LINING**
Special bricks in Refrax® PLUS or Refrax® TOP
- 5 BURNER OUTLET**
Alumina ramming - ALFRAX® AFR 700
SiC ramming - Refrax® ProRam 80 / ProRam 70
- 6 1ST PASS**
T-CLIP® PRO tile system in Refrax® PLUS or Refrax® TOP
- 7 SUPERHEATER**
Special tubes shields in super Cast Refrax® and super Refrax® 20 using Carbofrax® 3445AT mortar
- 8 HEADER/COLLECTOR**
Refrax® ProGun 80 or Refrax® ProPlast 60 / ProPlast 70
- 9 ASH HOPPER**
ALFRAX® CK abrasion resistant trowel mix or Refrax® ProCast 70

CORROSION - OXIDATION OF MATERIALS

Test: ASTM C 683 - steam corrosion 1000°C for 500 h

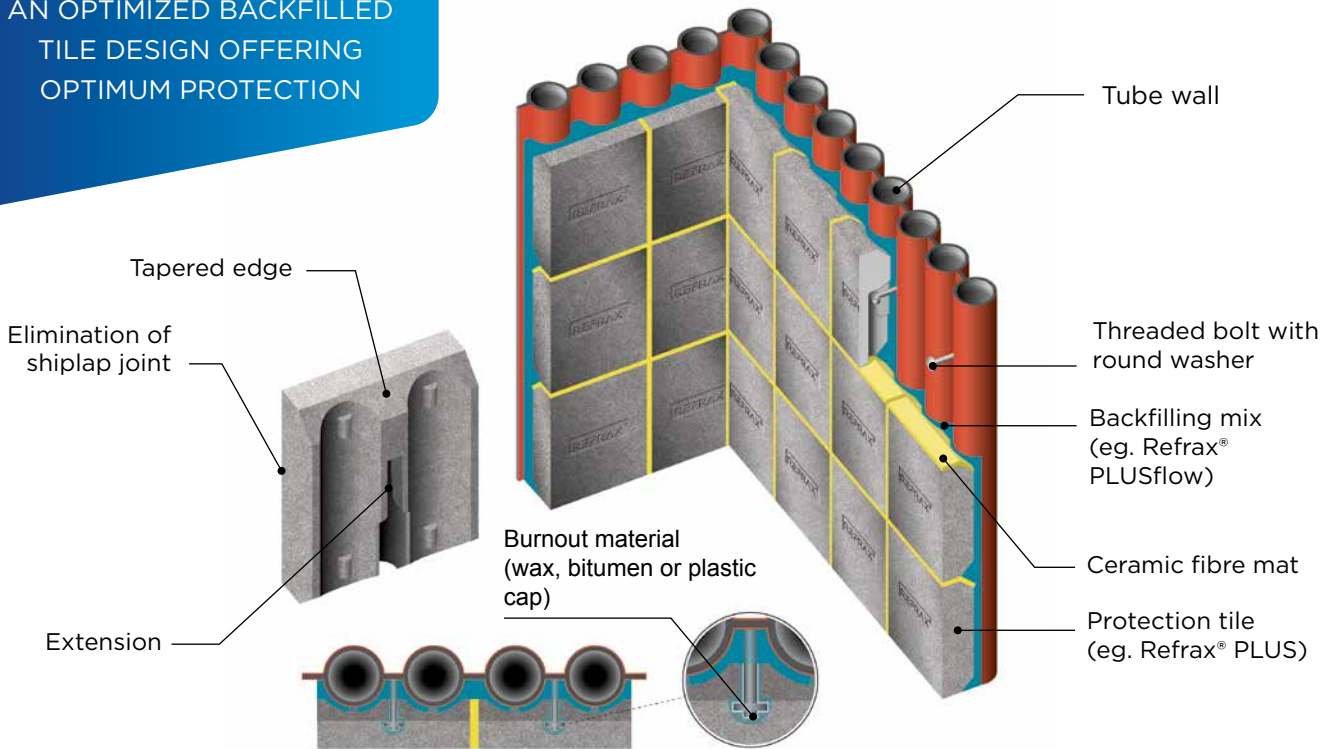


The oxidation of the tiles leads to an expansion and weakening of the structures



Refrax® solutions have a low oxidation level to ensure their longevity

AN OPTIMIZED BACKFILLED
TILE DESIGN OFFERING
OPTIMUM PROTECTION



APPLICATION

Can be used in all installation systems, for vertical boiler tube walls, e.g. the side walls, back and front walls, as well as the slanted tube walls on the ceiling, like inlet ceiling, burn out and boiler ceilings.

SYSTEM FITTINGS

Anchorage to the tube wall: Threaded bolts with round washers made from heat-resistant steel.

Backfilling mix: Offers added protection against flue gases and reduces the anchor corrosion.

Refrax® PLUSflow with higher thermal conductivity. The self-flowing and selfcompacting SiC concrete is formulated to fill a defined gap between the tile and the tube wall.

This ensures optimal contact to the wall and offers added protection against flue gases.

Note: If the angle is smaller than 15°, the tiles have to be laid using SiC mortar, Refrax® PROMor.

Ceramic fibre mats or fibre paper to compensate for potential expansion.

BENEFITS



Quick and precisely defined installation



Reduced tension



Oxidation & corrosion & high mechanical load resistance



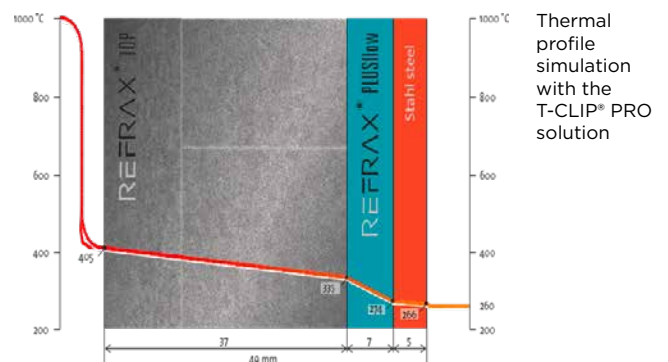
Best price-performance-ratio on the market



Available for all tube diameters and spacings



Excellent thermal conductivity due to SiC back casting (reducing the temperature of the hot face)



SHAPED PRODUCTS

| MATERIAL | DESCRIPTION |
|--------------|--|
| Refrax® PRO | Tried and tested material with narrow tolerances. Application area: Standard product for the first pass and the combustion area. |
| Refrax® PLUS | Improved patented premium product for the toughest requirements. Application areas: For all areas - particularly suited for areas exposed to high wear, high stresses and for repairs. |
| Refrax® TOP | Doped patented, doubled fired material with glazed surface. Application area: For all areas - particularly suited for areas exposed to aggressive ash and slag. |

CASTABLE / MORTAR

| MATERIAL | DESCRIPTION |
|------------------|--|
| Refrax® PLUSflow | Backfilling mix with maximised thermal conductivity for T-CLIP® systems. |
| Refrax® PROmor | Mortar for 45°, CFB systems and belly bricks. |



SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

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